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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,589	08/29/2003	Vincent C. Moyer	10021040-1	9284

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AGILENT TECHNOLOGIES, INC.  
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EXAMINER
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GOKHALE, SAMEER K

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/651,589	<b>Applicant(s)</b> MOYER, VINCENT C.	
	<b>Examiner</b> Sameer K. Gokhale	<b>Art Unit</b> 2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

By

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 8-11, 17-21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobachi et. al. (US 6,326,948) (hereafter, "Kobachi").

Regarding claim 1, Kobachi teaches an input device comprising: a sensor (Fig. 1, item S) adapted to detect movement (Fig 1, see col. 8, lines 53-55, S detects the movement of reflective plate 3); and a captive disc (Fig. 1, item 1) movably suspended over said sensor (Fig.1, see col. 8, lines 6-7), said captive disc having an active surface (Fig. 1, item 3) facing said sensor.

Regarding claim 2, Kobachi teaches a device further comprising a frame (Fig. 1, item 6) housing said captive disc; and horizontal spring (Fig. 1, item 2, see col. 8, 19-20) adapted to center said captive disc within said frame (Fig. 1).

Regarding claim 3, Kobachi teaches a device further comprising a vertical spring (Fig. 1, item 2, see col. 8, 19-20, here the elastic structure 2, which acts as a spring extends in the vertical direction) adapted to support said captive disc (Fig. 1); and wherein said captive disc is substantially flat (Fig. 1, here the disc is substantially flat).

Regarding claim 4, Kobachi teaches a device wherein said captive disc has convex shape (Fig. 1, the top surface of item 1 is convex relative to the sensor S, also

see Fig. 16 for an embodiment where the top surface is convex relative to the user's finger).

Regarding claim 5, Kobachi teaches a device wherein said active surface comprises navigation area (Fig. 1, where the surface of item 3 is the navigation area) and border area (the bottom surface of item 1), said border area generally surrounding said navigation area (Fig. 1, it is inherent that the surface area portion of item 1 that surrounds item 3).

Regarding claim 6, Kobachi teaches a device wherein the navigation area has a predetermined pattern (see col. 9, lines 55-63).

Regarding claim 8, Kobachi teaches a device wherein said sensor is configured to sense images proximal to a focal plane (col. 9, lines 41-48, it is inherent that the plane perpendicular to the optical axis that is mentioned here is the focal plane).

Regarding claim 9, Kobachi teaches a device further comprising an activation switch (Fig. 31, item 40) adapted to detect pressure on said captive disc (see col. 17, lines 25-28).

Regarding claim 10, Kobachi teaches a device further comprising a selection switch (Fig. 31, item 40) adapted to detect user selection (see col. 17, lines 47-53, it is inherent that item 40 can be operated as a switch from the 2-dimensional plane to the 3-dimensional plane where a user makes a selection to move in the Z-direction by applying pressure to item 40).

Regarding claim 11, Kobachi teaches a device further comprising a light source (Fig. 1, item LD) adapted to provide illumination on the active surface (col. 8, lines 26-28).

Regarding claim 17, Kobachi teaches an electronic apparatus comprising: a screen (col. 1, line 7) displaying information including an icon (col. 1, line 7); an input device for controlling the icon (col. 1, line 6), said input device comprising: a sensor adapted to detect movement (Fig. 1, item S); and a captive disc (Fig. 1, item 1) movably suspended over said sensor (Fig. 1), said captive disc having an active surface (Fig. 1, item 3) facing said sensor.

Regarding claim 18, Kobachi teaches an apparatus further comprising: frame housing (Fig. 1, item 6) said captive disc; and horizontal spring (Fig. 1, item 2) adapted to center said captive disc within said frame (Fig. 1)

Regarding claim 19, Kobachi teaches an apparatus further comprising a vertical spring (Fig. 1, item 2, see col. 8, 19-20, here the elastic structure 2, which acts as a spring, extends in the vertical direction) adapted to support said captive disc (Fig. 1); and wherein said captive disc is substantially flat (Fig. 1, here the disc shown is substantially flat).

Regarding claim 20, Kobachi teaches an apparatus wherein said captive disc has convex shape (Fig. 1, the top surface of item 1 is convex relative to the sensor S, also see Fig. 16 for an embodiment where the top surface is convex relative to the user's finger).

Regarding claim 21, Kobachi teaches an apparatus wherein said active surface comprises navigation area (Fig. 1, where the surface of item 3 is the navigation area) and border area (the bottom surface of item 1), said border area generally surrounding said navigation area (Fig. 1, it is inherent that the surface area portion of item 1 that surrounds item 3).

Regarding claim 23, Kobachi teaches an apparatus wherein said sensor is adapted to sense images proximal to a focal area (col. 9, lines 41-48, it is inherent that the plane perpendicular to the optical axis that is mentioned here is the focal plane).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7, 12-16, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobachi in view of Liao (US 2004/0075640).

Regarding claim 7, Kobachi teaches the limitations of claim 1 and 2 as discussed above. However, Kobachi does not teach a focusing lens adapted to focus light from a portion of the active surface to said sensor when the active surface is proximal to a focal plane.

However, Liao does teach an optical input device comprising a focusing lens (Fig. 1, item 50) adapted to focus light from a portion of an active surface (Fig. 1, item 11) to a sensor (Fig. 1, item 60) when the active surface is proximal to a focal plane (Fig. 1, here active surface 1 is fixed in the focal plane).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Liao in the apparatus of Kobachi to include a focusing lens between the active surface and the sensor in order to narrow the beam of light reflected off the active surface.

Regarding claim 12, Kobachi teaches an input device comprising: a sensor (Fig. 1, item S) adapted to detect movement (Fig 1, see col. 8, lines 53-55, S detects the movement of reflective plate 3); a captive disc (Fig. 1, item 1) movably suspended over said sensor (Fig. 1, see col. 8, lines 6-7), said captive disc having an active surface (Fig. 1, item 3) facing said sensor; an illuminant (Fig. 1, item LD) adapted to provide light toward the active surface (col. 8, lines 26-28); and horizontal spring (Fig. 1, item 2) adapted to center said captive disc (Fig. 1).

However, Kobachi does not teach a focusing lens for focusing light from the active surface onto said sensor.

However, Liao does teach an optical input device comprising a focusing lens (Fig. 1, item 50) adapted to focus light from a portion of an active surface (Fig. 1, item 11) to a sensor (Fig. 1, item 60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Liao in the apparatus of Kobachi to

include a focusing lens between the active surface and the sensor in order to narrow the beam of light reflected off the active surface.

Regarding claim 13, Kobachi in view of Liao teaches the limitations of claim 12 as discussed above, and Kobachi further teaches a device further comprising vertical spring (Fig. 1, item 2, see col. 8, 19-20, here the elastic structure 2, which acts as a spring extends in the vertical direction) adapted support said captive disc; and wherein said captive disc is substantially flat (Fig. 1).

Regarding claim 14, Kobachi in view of Liao teaches the limitations of claim 12 as discussed above, and Kobachi further teaches a device wherein said captive disc has convex shape. (Fig. 1, the top surface of item 1 is convex relative to the sensor S, also see Fig. 16 for an embodiment where the top surface is convex relative to the user's finger).

Regarding claim 15, Kobachi in view of Liao teaches the limitations of claim 12 as discussed above, and Kobachi further teaches a device wherein said active surface comprises navigation area (Fig. 1, where the surface of item 3 is the navigation area) and border area (the bottom surface of item 1), said border area generally surrounding said navigation area (Fig. 1, it is inherent that the surface area portion of item 1 that surrounds item 3).

Regarding claim 16, Kobachi in view of Liao teaches the limitations of claim 12 as discussed above, and Kobachi further teaches a device further comprising a selection switch (Fig. 31, item 40) adapted to detect user selection (see col. 17, lines 47-53, it is inherent that item 40 can be operated as a switch from the 2-dimensional



plane to the 3-dimensional plane where a user makes a selection to move in the Z-direction by applying pressure to item 40).

Regarding claim 22, Kobachi teaches the limitations of claim 18 as discussed above, however Kobachi does not teach an apparatus further comprising a focusing lens adapted to focus the active surface to said sensor when the active surface is proximal to a focal plane.

However, Liao does teach an optical input device comprising a focusing lens (Fig. 1, item 50) adapted to focus light from a portion of an active surface (Fig. 1, item 11) to a sensor (Fig. 1, item 60) when the active surface is proximal to a focal plane (Fig. 1, here active surface 1 is fixed in the focal plane).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Liao in the apparatus of Kobachi to include a focusing lens between the active surface and the sensor in order to narrow the beam of light reflected off the active surface.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshida (US 5,446,480) teaches an input device comprising a sensor that detects the movements of a sliding member. Bidiville et. al. (US 5,578,817) teaches a pointing device utilizing a photodetector array comprising a sensor which reflects light off of an active surface with a predetermined pattern. Sayag (US

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5,801,681) teaches an input method comprising a sensor that detects light from an active surface that is directed through a focusing lens.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameer K. Gokhale whose telephone number is (571) 272-5553. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKG  
October 26, 2005

Sameer Gokhale  
Examiner  
Art Unit 2673

  
**JIMMY NGUYEN**  
**PRIMARY EXAMINER**